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**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Adopt  
Biomethane Standards and Requirements,  
Pipeline Open Access Rules, and Related  
Enforcement Provisions

Rulemaking 13-02-008  
(Filed February 13, 2013)

**LEADERSHIP COUNSEL FOR JUSTICE AND ACCOUNTABILITY, FOOD & WATER  
WATCH, AND CENTRAL CALIFORNIA ASTHMA COLLABORATIVE COMMENTS  
IN RESPONSE TO ADMINISTRATIVE LAW JUDGE'S RULING DIRECTING  
PARTIES TO FILE COMMENTS ON PHASE 4A STAFF PROPOSAL AND RELATED  
QUESTIONS**

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## **I. Introduction**

Leadership Counsel for Justice and Accountability (“LCJA”), Food & Water Watch (“FWW”), and Central California Asthma Collaborative (“CCAC”) (collectively “Commenters”) respectfully submit these comments in response to Judge Bemesderfer’s ruling calling on all parties to address the Energy Division’s Staff Proposal (“Staff Proposal”).

## **II. Interests of Commenters**

Leadership Counsel is a nonprofit organization that partners with, and/or legally represents, community-based organizations (“CBOs”) in disadvantaged communities in pursuit of environmental justice and equitable community development. Its mission is to mobilize community voice, advocate for sound policy, and eradicate injustice to promote equal access to opportunity regardless of wealth, race, income, and place. The members of its partner-CBOs are exclusively residential ratepayers in low-income communities. Approximately ninety (90) percent of its clients and partners reside within the San Joaquin Valley, while the remaining reside within the East Coachella Valley. Leadership Counsel represents customers and potential customers whose interests include the concerns that policies or programs do not disproportionately have negative impacts on low-income, disadvantaged communities, that such communities receive just and equitable benefits from new regulations, policies, or programs, and that the Rulemaking at issue improves environmental quality locally, regionally, and globally.

Leadership Counsel works closely with several communities that live in close proximity to potential biomethane projects that will experience positive and/or negative impacts from such projects. We also work with hundreds of community residents that live in regions where biomethane generation and processing will take place, and who will experience positive and/or

negative impacts from such projects. Leadership Counsel submits these comments to elevate the concerns from community residents that see biomethane projects as subsidizing the continued operation and even the expansion of industrial dairies that harm them and their neighbors.

FWW is a national, nonprofit organization with over 2.5 million members and supporters nationally, including tens of thousands of members and supporters in California. FWW mobilizes regular people to build political power to move bold and uncompromised solutions to the most pressing food, water, and climate problems of our time. FWW actively works on an array of issues related to biomethane, which includes research, public education through reports and webinars, and legal advocacy. FWW's California membership is concerned about increased reliance on biomethane as FWW advocates for a rapid transition to truly renewable, clean energy in California and across the country. FWW and its members are especially concerned about biomethane sourced from factory farm waste because of the pollution; harm to local communities and small, family farmers; and climate change emissions associated with those operations.

The CCAC is a 501c3 whose mission is to provide education and direct services, build regional capacity and advocate for sensible policies that improve health and address inequities by reducing environmental impacts and emphasizing the prevention and management of chronic disease. CCAC has been providing education and services to low-income residents in all eight counties of the SJV since 2011. CCAC established the SJV Environmental Justice Steering Committee (EJSC) in 2016, a group of 17 community-based organizations (CBO), to bring together the Valley's EJ voices to advocate for regional and state policies and projects that bring resources to Disadvantaged Communities (DACs). These DACs are both low income and majority communities of color, whose health and quality of life are significantly threatened daily

by the location, creation, and transport of biomethane generated at Large Concentrated Animal Feeding Operations like the mega-dairies. Which are located in and adjacent to these same communities. CCAC's Community Health Workers daily visit the homes of families burdened by respiratory illnesses like asthma and COPD. These residents regularly describe the disaster these operations can be to their children and elders.

### **III. Commenters' Responses to the Four Questions Presented**

Judge Bemesderfer's Ruling calls on the parties to address three specific portions of the Staff Proposal, and also whether the Staff Proposal fails to consider any matter that Commenters believe should be considered as part of a biomethane procurement program. For the reasons stated herein, Commenters request that biomethane sourced from dairy, hog, or other types of factory farms<sup>1</sup> be excluded from any potential procurement target that may be set in this proceeding. Factory farms are extremely problematic because of their inherent social, economic, and environmental harms, which all too often are borne by environmental justice and social justice communities ("ESJ communities")<sup>2</sup> in California's San Joaquin Valley and elsewhere. Encouraging biomethane procurement from these facilities incentivizes and entrenches the very practices that are the root cause of these harms, and perversely rewards some of the industry's most unsustainable practices that continue to disproportionately harm ESJ communities. The commitment of California and the Commission to environmental justice, environmental protection, and facilitating a rapid transition to a truly green, sustainable energy system are antithetical to factory farm biomethane procurement.

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<sup>1</sup> "Factory farms" refers to large-scale, industrial livestock operations, often called concentrated animal feeding operations, or CAFOs.

<sup>2</sup> Commenters use this term in accord with the CPUC's Environmental and Social Justice Action Plan. CPUC, Environmental and Social Justice Action Plan (v. 1.0) (2019) (hereinafter "ESJ Action Plan"), [https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/UtilitiesIndustries/Energy/EnergyPrograms/Infrastructure/DC/Env%20and%20Social%20Justice%20ActionPlan\\_%202019-02-21.docx.pdf](https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/UtilitiesIndustries/Energy/EnergyPrograms/Infrastructure/DC/Env%20and%20Social%20Justice%20ActionPlan_%202019-02-21.docx.pdf).

While we appreciate the Staff Proposal’s limitation on the inclusion of biomethane produced from factory farm waste in the suggested short- and medium-term biomethane procurement targets, the Staff Proposal does not go far enough to exclude those fuels.

Additionally, commenters believe that the Staff Proposal fails to fully address environmental justice, ratepayer, and societal costs associated with the proposed targets and cost-effectiveness methodology, and fails to consider the various ways to reduce methane emissions through prevention rather than destruction.

#### **A. The Staff Proposal’s Cost-Effectiveness Recommendations**

Commenters disagree with portions of the Staff Proposal and suggest a more holistic approach to determining cost-effectiveness that respects Californians, the environment, and the Commission’s climate change and environmental justice goals. The Staff Proposal, on the other hand, would delegate this task to the IOUs by requiring them to develop a Standard Biomethane Procurement Methodology (“SBPM”), and then commit the Commission to this privately developed plan when reviewing IOUs’ submission of biomethane procurement agreements for Commission approval - all without meaningful public involvement.<sup>3</sup> The Staff Proposal also suggests that the IOU-developed SBPM be “similar to the NW Natural cost-effectiveness test.”<sup>4</sup>

Commenters disagree with the Staff Proposal because: 1) the cost-effectiveness methodology should be developed through robust public input and not by the IOUs alone, 2) the NW Natural test is not an appropriate model for a variety of reasons, and 3) the monetary, social, and environmental costs to Californians needs far more consideration than suggested by the Staff Proposal.

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<sup>3</sup> Staff Proposal, at 42–46.

<sup>4</sup> Staff Proposal, at 43.

Only by conducting a cost-effectiveness analysis that accurately accounts for all relevant costs compared with alternative ways of reducing SLCPs will the Commission be able to determine whether certain sources of biomethane, including factory farm-derived biomethane, meets SB 1440's threshold inquiry. *See* Pub. Util. Code § 651(a)(1).

*1. Developing a Cost-Effectiveness Methodology Cannot Be Left to IOUs*

SB 1440 calls on the Commission to find whether procurement targets or goals are a cost-effective means of achieving SLCP reductions. Given this mandate and the agency's ability to hear and accommodate varied perspectives, the Commission should not delegate this important responsibility to California's large gas IOUs.

First, these IOUs have an inherent conflict of interest because biomethane procurement avoids compliance costs under California's cap-and-trade program, which will get progressively more costly for gas IOUs.<sup>5</sup> Therefore, these IOUs have an incentive to skew the cost-effectiveness analysis in favor of biomethane and against a full accounting of the countervailing costs to society and impacted communities.

Second, the Commission should endeavor to engage with all interested parties in developing such an important linchpin of energy procurement going forward. Several goals of the Commission's Environmental and Social Justice Action Plan weigh in favor of developing this methodology with robust public engagement, especially from those communities most likely to be impacted by biomethane development.<sup>6</sup> As recommended by the Staff Proposal, the IOUs would develop the methodology behind closed doors and that would set the standard of review when approvals came before the Commission – the public could only engage if they submit

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<sup>5</sup> Staff Proposal, at 19, 26.

<sup>6</sup> ESJ Action Plan, *supra* note 2, at 6–7 (for example, Goal 1 to “build a consistent approach to CPUC proceedings and communications with the public” and Goal 5 to “expand public engagement in decision-making”).

protest letters in response to the IOU's Advice Letters. That process is contrary to active engagement with the public and interested parties that an issue of this magnitude requires.

In sum, Commenters disagree that development of the cost-effectiveness methodology should be handed over to the IOUs. Ratepayers, impacted communities, and environmental interests also deserve a voice in this process alongside biomethane producers and the IOUs.

## *2. NW Natural's Methodology Is Not the Model to Follow*

The NW Natural methodology should not be a template for this proceeding's cost-effectiveness determination. The NW Natural methodology is far too narrow because it fails to consider environmental co-costs and benefits associated with the entire life cycle of biomethane approved for procurement. The NW Natural cost-effectiveness methodology attempts to compare "low carbon gas resources on an apples-to-apples basis against conventional gas resources."<sup>7</sup> Simply put, the core equation put forward by NW Natural is:

$$\text{Annual cost of RNG} = \text{Cost of Methane} + \text{Emissions compliance costs} - \text{Avoided infrastructure costs}$$

The methodology is very narrowly focused on the financial considerations intrinsic to NW Natural, and does not consider environmental co-benefits or costs or impacts to ESJ communities.<sup>8</sup>

Cost-effectiveness analyses should be holistic, accounting for the full life cycle of a biomethane source including all environmental impacts to water resources and air quality related to biomethane production *and* the feedstock used. The NW Natural model does not accomplish this important analysis.

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<sup>7</sup> NW Natural 2018 Integrated Resource Plan, Revised Appendix H: Renewable Gas Supply Resource Evaluation Methodology at 1, <https://edocs.puc.state.or.us/efdocs/HAH/um2030hah144246.pdf>.

<sup>8</sup> *Id.* at 3–4.

Additionally, unlike the NW Natural methodology, the Commission should compare the costs of procuring biomethane from certain sources not only to the cost of equivalent fossil gas, but also to the costs of achieving California’s SLCP reduction goals in other ways, such as alternative manure management practices and organic diversion programs that avoid methane emissions in the first place. SB 1440’s mandate is for the Commission to determine whether “targets or goals are cost-effective means of achieving the forecast reductions in the emissions of short-lived climate pollutants ... and other greenhouse gases.” Pub. Util. Code § 651(a)(1). Therefore, the required analysis is not simply how the cost of biomethane compares with the cost of fossil NG, but whether setting biomethane procurement targets is a cost-effective way to *actually reduce SLCP emissions* in California. This necessarily includes consideration of alternative means of reducing SLCPs that could be unrelated to swapping out a unit of fossil NG with a unit of biomethane.

3. *The Staff Proposal’s discussion of “societal costs” is too narrow and fails to account for an array of environmental, public health, and economic costs*

To accurately assess the cost-effectiveness of any procurement target or goal that allows for procurement of factory farm-derived biomethane, the scope of the analysis needs to consider the entire life cycle of that feedstock and the associated environmental impacts and harm to public health and welfare, in particular disproportionate impacts to ESJ communities. This includes impacts to water and air quality associated with biomethane production *and* the feedstock used by the producer. In other words, the Staff Proposal fails to incorporate the massive impacts to water, air, and quality of life from factory farms that generate the waste needed to produce biomethane from this industry.

The cost-effectiveness analysis should also consider the substantial ratepayer and taxpayer subsidies California has already allocated to dairy biogas projects as that financial



support is a necessary prerequisite to development of factory farm gas (and is therefore an important cost to consider since meeting any potential procurement target would rely on these past and future public investments). Past subsidies include ratepayer subsidies for the SB 1383 Dairy Biomethane Pilot Projects, additional ratepayer support for dairy biogas clusters, grants from the Dairy Digester Research & Development Program, \$26.5 million set aside for dairy methane mitigation in the Alison Canyon natural gas leak settlement, the Renewable Natural Gas Incentive Program, the Bioenergy Market Adjustment Tariff, and the Low Carbon Fuel Standard. CARB’s recently released Draft Analysis of Progress toward Achieving the 2030 Dairy and Livestock Sector Methane Emissions Target suggests that the dairy industry will need billions of additional dollars to meet SLCP reduction goals.<sup>9</sup> An analysis of societal costs must consider the impact of putting Californians on the hook for billions of dollars to meet procurement targets.

*a. Environmental Impacts*

The cost-effectiveness methodology must account for the environmental impacts caused by factory farms that supply manure as feedstock for biomethane production: *i.e.*, the environmental costs in the form of reduced water quality and quantity, air quality, odor, and other nuisances. These are serious costs often borne by Californians already struggling with some of the most polluted environments in the country.<sup>10</sup> As proposed, costs would be analyzed through three “perspectives,” the first two focused on producers and IOUs, and the third purporting to consider “costs to society at large.”<sup>11</sup> Unfortunately, it appears that this third perspective is designed to account for environmental *benefits* and to downplay or ignore environmental *costs*.

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<sup>9</sup> California Air Resources Board: Draft Analysis of Progress toward Achieving the 2030 Dairy and Livestock Sector Methane Emissions Target (2021), <https://ww2.arb.ca.gov/sites/default/files/2021-06/draft-2030-dairy-livestock-ch4-analysis.pdf>.

<sup>10</sup> See D.20-12-022, at 37 (recognizing that LCJA “clearly establishes that many communities in the vicinity of dairies are already disproportionately burdened by environmental pollution” and that “the Commission is concerned about local environmental impacts from dairies and understands the view of the community members.”).

<sup>11</sup> Staff Proposal, at 43–44.

For example, the Staff Proposal focuses on the “social cost of methane” to account for society-wide benefits from reducing methane emissions, but does not expressly consider how a biomethane procurement target or goal could *increase* methane emission over time.<sup>12</sup> And the third perspective’s attention to society at large suggests a one-sided analysis of “associated benefits” based on the “three environmental benefits enumerated in SB 1440,” despite the fact that factory farm-derived biomethane would be unable to achieve any of these benefits and would actually harm the environmental values recognized in SB 1440.<sup>13</sup> This approach appears to inappropriately ignore the many environmental costs incurred by communities living near factory farming, and incorrectly assumes the baseline that California dairies must continue generating large amounts of methane from manure without considering alternatives, including herd size reduction.

On the latter point, methane from manure is not an inextricable aspect of livestock production, and the Commission must begin to appreciate that factory farms deliberately adopt

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<sup>12</sup> See Staff Proposal, at 26–27. Incentivizing biomethane buildout and associated infrastructure will result in more NG infrastructure capable of leaking or otherwise having fugitive emissions, and represents long-term capital investments with accompanying expectations of long-term use and revenue. This will delay the orderly retirement of California’s dirty NG infrastructure and the needed transition to truly green, sustainable energy that does not further compromise our climate.

<sup>13</sup> This portion of SB 1440 requires that the Commission “[e]nsure that biomethane eligible for any procurement program [that is delivered through a common carrier pipeline] meets one of the following conditions:

...  
(ii) The seller or purchaser of the biomethane demonstrates that the capture or production of biomethane directly results in at least one of the following environmental benefits to California:

(I) The reduction or avoidance of the emission of any criteria air pollutant, toxic air contaminant, or greenhouse gas in California.

(II) The reduction or avoidance of pollutants that could have an adverse impact on waters of the state.

(III) The alleviation of a local nuisance within California that is associated with the emission of odors.

Factory farm biomethane is incapable of achieving any of these benefits. Instead, setting a procurement target that allows for factory farm biomethane would result in larger and even more concentrated operations, with the attendant exacerbation of air pollutant emissions including greenhouse gases from fugitive sources and enteric fermentation, increases in the quantity and risk profile of waste reaching waters of the state, and entrenchment and/or increases in local nuisances caused by factory farms, especially dairies in the Central Valley.

practices such as liquid manure handling and storage that cause the methane emissions later capable of being captured by digesters. These are not natural or unavoidable emissions.

Therefore, unlike methane collected from landfills and wastewater treatment plants that receive waste from and have little control over the decisions made by a variety of third-party generators, dairy and swine factory farms could eliminate this source of methane unilaterally and without being subsidized by ratepayers and the state via a biomethane scheme. It is quite simply an operational and waste management improvement they opt not to make (and why would they, when California incentivizes generating this pollution through the LCFS and other programs – something the Commission must be wary of and avoid in this proceeding).

In addition to deliberately creating methane emissions, factory farming’s preferred production and waste management practices cause severe water and air pollution. The Staff Proposal makes no real effort to account for these impacts, which are disproportionately borne by ESJ communities. The Proposal briefly mentions the widespread opposition to dairy digesters by environmental and EJ advocates, but then moves on to dismiss these concerns by citing to dated and incorrect information.<sup>14</sup> Specifically, the Proposal incorrectly states that factory farm digesters “significantly reduce[.]” nitrate contamination from large dairies and have “the triple benefit of: (i) converting high global warming CH<sub>4</sub> to CO<sub>2</sub>; (ii) generating energy that substitutes fossil fuels; and (iii) producing digestate that replaces mineral fertilizer.”<sup>15</sup>

In terms of water pollution costs, factory farms have profound negative effects on local water quality that must be considered as a cost weighing against factory farm biomethane procurement. The Staff Proposal’s reliance on a 2005 dairy industry publication to claim that digesters reduce nitrate pollution is misplaced. First, that same document clearly explains “[a]n

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<sup>14</sup> Staff Proposal, at 22–23.

<sup>15</sup> *Id.* at 23.

anaerobic digester will have minimal effect on the total nutrient content of the digested manure. However, the chemical form of some of the nutrients will be changed.”<sup>16</sup> Thus, digesters do not reduce total nutrient content, and according to more recent research by the U.S. Department of Agriculture’s Natural Resources Conservation Service, the change in nutrients’ chemical form makes nitrogen and phosphorus in digestate *more* dangerous to water quality because these and other compounds “become more soluble due to anaerobic digestion and therefore have higher potential to move with water.”<sup>17</sup> Therefore, the Staff Proposal’s suggestion that digesters mitigate nutrient pollution from factory farms is incorrect and not supported by science – which shows the opposite. Factory farm contamination of ground and surface waters with excessive nutrients, nitrates, and other pollutants is well-established, and digesters do not alleviate these costs.<sup>18</sup>

Incorporating digesters into the factory farm model also entrenches the very practices that are causing ground and surface waters pollution. Concentrating excessive numbers of animals on very few acres and then liquifying their manure to cheaply handle, store, and dispose of it are root causes of local water pollution from these facilities, and biomethane development relies on and encourages those unsustainable practices.

Digesters are only economically feasible for large factory farms (or clusters of confinement facilities within close proximity) with lots of animals generating lots of waste, and feedstock needs to have high moisture content to be suitable for the kind of digestion facilities typically used.<sup>19</sup> Digester developments depend on operators choosing to liquify their manure,

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<sup>16</sup> Ken Kirsch et al, *Biomethane from Dairy Waste: A Sourcebook for the Production and Use of Renewable Natural Gas in California*, at 38 (2005), [http://www.suscon.org/pdfs/news/biomethane\\_report/Full\\_Report.pdf](http://www.suscon.org/pdfs/news/biomethane_report/Full_Report.pdf).

<sup>17</sup> Natural Resources Conservation Service, 366-CPS-1, Conservation Practice Standard No. 366: Anaerobic Digester, at 6 (“Land application of digester effluent, compared with fresh manure, may have a higher risk for both ground and surface water quality problems. Compounds such as nitrogen, phosphorus, and other elements become more soluble due to anaerobic digestion and therefore have higher potential to move with water.”).

<sup>18</sup> *E.g.*, D-20-12-022 (adopting a disclosure requirement stating that “[c]apturing biogas from dairies ... does not mitigate all water, air, and odor pollution from dairies that impacts local communities”).

<sup>19</sup> See Markus Lauer et al., *Making Money from Waste: The Economic Viability of Producing Biogas and Biomethane in the Idaho Dairy Industry*, 222 *Applied Energy* 621 (2018),

which in turn produces massive amounts of methane. Pasture-based production systems do not have these same problems because those animals' manure aerobically decomposes naturally on the landscape and serves its age-old function of fertilizing and conditioning the soil.<sup>20</sup>

Incentivizing the production of factory farm-derived biomethane exacerbates and entrenches factory farming's worst environmental costs and impacts on ESJ communities in the Central Valley and beyond.

Factory farms also have a significant impact on water *quantity*. As USDA's more recent analysis shows, all of California's domestic dairy production takes place within areas of extreme or exceptional drought.<sup>21</sup> California's large dairy operations use massive amounts of water to grow crops for cows, provide drinking water to cows, to clean factory farm facilities, and to liquify cows' manure for storage. Starting with the feed necessary to raise these animals (and by extension necessary to collecting and utilizing their manure to produce biogas), water-intensive alfalfa remains the "staple in dairy rations."<sup>22</sup> Alfalfa by far uses more water than any other crop grown in California, with annual usage rates several times higher than other major California crops.<sup>23</sup>

In addition to the large amounts of fresh water used to feed and water their animals, factory farms also use enormous amounts of water to clean their facilities and to liquify manure for storage in lagoons – a prerequisite step for the waste to then be digested for biogas

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<https://www.sciencedirect.com/science/article/pii/S0306261918305695> (recognizing that economic feasibility is directly related to larger herd sizes).

<sup>20</sup> See Alan Newport, *Coming Up for Air*, Beef Mag. (Apr. 1, 2006), [https://www.beefmagazine.com/mag/beef\\_coming\\_air](https://www.beefmagazine.com/mag/beef_coming_air) (describing the problems with anaerobic digestion and concluding that "[o]nce we understand nature's preferences and biological principles, it's only logical to look for ways to introduce higher levels of aerobic decomposition back into our modern manure handling systems").

<sup>21</sup> U.S. Dept. of Agriculture, *U.S. Drought Monitor* at 47–48 (June 22, 2021), <https://www.usda.gov/sites/default/files/documents/AgInDrought.pdf>.

<sup>22</sup> Carrie Vasselka, *Alfalfa Hay: The Dairy Ration's Secret Weapon*, Progressive Dairyman (Sept. 29, 2017), <https://www.progressivedairy.com/topics/feed-nutrition/alfalfa-hay-the-dairy-ration-s-secret-weapon>.

<sup>23</sup> Blaine Hanson, Dept. of Land, Air and Water Resources UC Davis, *California Agriculture, Water and You* at 16, [https://www.pge.com/includes/docs/pdfs/shared/edusafety/training/pec/water/blaine-hanson\\_water\\_forum\\_complete.pdf](https://www.pge.com/includes/docs/pdfs/shared/edusafety/training/pec/water/blaine-hanson_water_forum_complete.pdf).

production in most systems. Thus, procuring biomethane from factory farm waste necessitates that large amounts of water be used to turn semi-solid waste into a slurry high in water content so that it is suitable for the digestion process. Factory farm gas necessitates and entrenches this unsustainable and irresponsible waste of California's precious water resources, which is far more costly in terms of water resources than alternate manure management options such as dry scraping manure (which is not conducive to anaerobic digestion).

As for air quality, the cost-effectiveness methodology must take into consideration the air pollution emitted by factory farms and how setting a procurement target that allows for factory farm biomethane would entrench and likely exacerbate air pollution emissions over time. Factory farming is contributing to air pollution and thousands of premature deaths each year through ammonia and other airborne pollution emissions. A recent study found that livestock production causes approximately 12,700 air quality-related deaths every year in the United States (and California's Central Valley is identified as one of the most impacted areas), with ammonia as a PM 2.5 precursor from livestock operations being a leading culprit.<sup>24</sup> Add to this that using manure to feed anaerobic digesters for biogas production can *increase* ammonia emissions.<sup>25</sup>

Because methane emissions reductions are the primary focus when it comes to California's large dairies, the Commission must recognize that methane emissions reductions can be achieved through alternative manure management practices and herd size reductions, although factory farm dairies would still be significant sources of VOCs from feed, animals, and other sources that will continue to result in dangerous air quality for millions of Californians. The

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<sup>24</sup> Nina G. G. Domingo et al., *Air Quality-Related Health Damages of Food*, 118(20) PNAS Figs. 1 & 2 and associated text (May 18, 2021), <https://www.pnas.org/content/118/20/e2013637118>.

<sup>25</sup> Michael A. Holly et al., *Greenhouse Gas and Ammonia Emissions from Digested and Separated Dairy Manure During Storage and After Land Application*, 239 Ag., Ecosystems and Env't 410, 418 (2017), [https://www.researchgate.net/publication/313731233\\_Greenhouse\\_gas\\_and\\_ammonia\\_emissions\\_from\\_digested\\_and\\_separated\\_dairy\\_manure\\_during\\_storage\\_and\\_after\\_land\\_application](https://www.researchgate.net/publication/313731233_Greenhouse_gas_and_ammonia_emissions_from_digested_and_separated_dairy_manure_during_storage_and_after_land_application) ("AD could also significantly increase NH<sub>3</sub> emissions").

Commission must incorporate any potential for a procurement target to entrench or increase these massive public health and environmental costs of factory farms into the cost-effectiveness analysis, and compare this against alternative ways to reduce SLCP emissions from California's dairies.

The San Joaquin Valley already struggles with some of the worst air quality in the country.<sup>26</sup> Calling on California's largest IOUs to seek out new sources of factory farm biomethane to meet a procurement target or goal is a violation of basic environmental justice principles, and is an affront to the hard work of other California officials and public health advocates trying to improve air quality and quality of life in the Central Valley. Instead, allowing factory farm gas to satisfy any amount of a procurement target or goal would, in effect, exacerbate these public health problems – an unacceptable cost under any reasonable analysis.

Without an assessment that takes all of these environmental and public health costs into account, biomethane from different sources will be treated no differently than other sources despite the reality that factory farms impose significant environmental costs that other feedstocks do not. Therefore, Commenters ask that the Commission begin developing a methodology that accurately accounts for each of these environmental costs along the entire life cycle of the feedstock and biomethane production.

*b. Accounting for the full life cycle of factory farm biomethane*

The cost-effectiveness methodology needs to consider the entire life cycle of factory farm manure as feedstock to ensure an accurate accounting of the actual GHG emissions and other environmental and social harms associated with the biomethane ultimately produced. The “system boundary” approach utilized by CARB under the LCFS program is seriously flawed and

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<sup>26</sup> E.g., EPA, *EPA Activities for Cleaner Air: San Joaquin Valley*, <https://www.epa.gov/sanjoaquinvalley/epa-activities-cleaner-air>.

should not guide the Commission here.<sup>27</sup> As the Staff Proposal recognizes, the way that carbon intensity of dairy and swine biogas is calculated results in exceptionally low CI scores, in part because the analysis excludes much of the emissions associated with the source factory farms.<sup>28</sup> Instead, the system boundary begins at manure collection, which is a counterproductive “hear no evil, see no evil” approach.

Factory farms emit GHGs and other pollutants throughout their production process, and without the rest of the operation there would be no manure to digest and produce biogas. Therefore, an accurate life cycle analysis must consider the overall production operation including, but not limited to, feed inputs and transport, facility equipment such as trucks and generators, the handling and disposal of digestate, and other GHG and SLCP emissions such as methane from enteric fermentation.<sup>29</sup> By artificially limiting the “boundary,” the costs and benefits are skewed in favor of factory farm biomethane. The Commission should not make this same mistake here.

Finally, as discussed elsewhere in these comments, herd expansions at California dairies will coincide with the pursuit of factory farm biomethane production, and therefore such expansion - and its environmental impacts - needs to be included in the life cycle analysis. As herd sizes increase, or more dairies cluster in close proximity to take advantage of pipeline or other biogas infrastructure, local environmental and societal impacts will increase accordingly.

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<sup>27</sup> See CARB, Renewable Natural Gas from Dairy and Livestock Manure at 13 (Apr. 13, 2017), [https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/lcfs\\_meetings/041717discussionpaper\\_livestock.pdf](https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/lcfs_meetings/041717discussionpaper_livestock.pdf).

<sup>28</sup> For example, these boundaries ignore enteric emissions, which are even greater than methane emissions from wet manure storage. *Id.* at 6 (“emissions from enteric fermentation are considered outside the fuel system boundary and will not be included”).

<sup>29</sup> An example of a more holistic life cycle analysis for products can be found at: Fatih Karakoyun & Dimitris Kiritsis, A Study on Social Assessment in Holistic Lifecycle Management, [https://link.springer.com/chapter/10.1007/978-3-319-22759-7\\_63](https://link.springer.com/chapter/10.1007/978-3-319-22759-7_63). Commenters do not necessarily believe that the Commission should adopt this particular framework, but provide it as an illustrative example because of its discussion of a “[h]olistic life cycle approach . . . , which takes into account the whole life cycle of the product (material extraction, production, use and disposal) and provides performance characteristics (technical, environmental, economic and social).”



*c. Expansion induced by biomethane incentives would cause even greater environmental and ESJ costs*

All of the above environmental and societal costs associated with factory farm biomethane could be exacerbated by the Commission adopting a procurement target or goal that allows procurement from dairy or hog operations because biogas development incentivizes operators to maximize herd sizes to capitalize on the new revenue stream. The Staff Proposal makes passing reference to the argument that developing factory farm gas leads to expansion and increased local environmental burdens, but fails to address the problem at all.<sup>30</sup>

From a practical and logical perspective, dairy herd expansion and geographic consolidation in response to the Commission establishing procurement targets is foreseeable and likely. The California Energy Commission has recognized that total existing potential biomethane feedstocks cannot supplant natural gas.<sup>31</sup> Therefore, if dairy biomethane has a long-term future as a significant energy resource in the state, dairy operations will need to grow in both herd size and number. In a scenario that requires added biomethane capacity, a life cycle assessment of biomethane resources must reflect the impacts associated with the necessary expansion of dairies themselves. These dairy herd size expansions would not occur *but for* the pursuit of dairy biomethane production.

Several of the SB 1383 dairy pilot project applications reference expected growth of dairies fueled by this growing demand for biomethane as a transportation fuel. For instance, the Lakeside Pipeline LLC pilot application, involving an “initial cluster” plan of 10 dairies encompassing 62,110 cows, noted that the “applicant’s future plans include expansions to up to

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<sup>30</sup> Staff Proposal, at 22.

<sup>31</sup> Amber Mahone et al., *Deep Decarbonization in a High Renewables Future*, ENERGY & ENVTL. ECONS., INC. 31 (June 2018).

11 additional dairies (6 digesters)” and *contemplates expansion of dairy herd sizes*.<sup>32</sup> Similarly, the Merced Pipeline LLC pilot application incorporates 8 dairies with 39,290 cows and notes that its “project team is already in discussions with the owners of 2 additional dairies,” and explains the possibility of “*another 11 more potential expansion dairies*” and similarly referencing “*likely expansions of those dairies[’]*” herd sizes.<sup>33</sup> Both pilot applications note that they have included additional dairies in their California Environmental Quality Act (“CEQA”) applications to avoid the need for “another CEQA process,” further suggesting that they anticipate expansion.<sup>34</sup>

Therefore, a growing body of evidence indicates that factory farm expansion is a serious problem that could result from how the Commission proceeds in this matter. Such expansion will necessarily increase environmental and societal costs, and would further already unacceptable impacts to ESJ communities.

4. *An appropriate cost-effectiveness analysis primarily should focus on costs to ratepayers and California’s communities*

Finally, the cost-effectiveness analysis should include much more focus on the costs to ratepayers and California communities than what the Staff Proposal contemplates. The Staff Proposal instead focuses primarily on costs to biomethane producers and IOUs, despite recognizing that “[a]ny additional costs of producing biomethane will be passed to ratepayers.”<sup>35</sup> Staff suggest that the cost-effectiveness analysis consider inputs and outputs from three

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<sup>32</sup> Lakeside Pipeline LLC, *Solicitation for SB1383 Dairy Pilot Projects* 15, 17 (2018) (emphasis added). The application also explains: “The individual digesters have been sized to accommodate the full current size of the dairy herds plus all likely expansions of those dairies. Expansion of a dairy herd significantly beyond current expectations would require additional covered digester ponds, at a cost proportional to the initial installation. However, the gathering lines would already be in place and so the project would realize some economies of scale from replication. More importantly, the project area includes 11 potential expansion digesters.” *Id.* at 33.

<sup>33</sup> Merced Pipeline LLC, *Solicitation for SB1383 Dairy Pilot Projects* 19, 37, 40 (2018) (emphasis added). The application explains: “The individual digesters have been sized to accommodate the full current size of the dairy herds plus all likely expansions of those dairies. Expansion of a dairy herd significantly beyond current expectations would require additional covered digester ponds, at a cost proportional to the initial installation.”

<sup>34</sup> Lakeside Pipeline LLC, *supra* note, at 15; Merced Pipeline LLC, *supra* note 33, at 19.

<sup>35</sup> Staff Report, at 26.

perspectives: “(1) the biomethane producer, (2) the utility and ratepayer, and (3) society at large.”<sup>36</sup> Notably, when discussing #2 in more detail, that perspective seems far more concerned about financial considerations of the IOUs than impacts to ratepayers.<sup>37</sup> Impacts to ratepayers should be front and center, and should likely result in the complete exclusion of factory farm biomethane procurement because it is not a financially viable way to decarbonize the natural gas grid as needed, even according to a leading industry representative.<sup>38</sup>

As discussed in detail above, the cost-effectiveness analysis must be holistic and consider the full life cycle of feedstocks and the environmental and societal costs associated with those feedstocks, especially if a procurement target would have the effect of entrenching or exacerbating environmental or societal harms. Therefore, Commenters disagree with the Staff Proposal’s 3 perspective framework because it demotes these interests to hardly  $\frac{1}{3}$  of the analysis. Further, biomethane producers’ financial wellbeing and ability to profit from this process, while an important consideration in terms of fostering market access, should not be on par (or elevated above) the costs and benefits to society at large. California has embraced broad public policies around environmental integrity, protecting ESJ communities, and fighting climate change, which are far more weighty than individual producer’s financial motives and should be treated accordingly in the cost-effectiveness methodology.

## **B. The Staff Proposal’s Proposed Procurement Targets**

Commenters believe that the setting of any targets prior to development of a cost effectiveness methodology and completion of cost effectiveness analysis that is inclusive of

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<sup>36</sup> *Id.* at 43.

<sup>37</sup> *Id.* at 44 (“The second cost-effectiveness analysis should consider costs and benefits to the utility.”).

<sup>38</sup> As Dairy Cares’ executive director has warned in the context of decarbonizing the natural gas grid, “[d]airy biogas is way too expensive” compared with existing sources of energy, so much so that relying on biomethane as a solution “doesn’t pencil out and it doesn’t make all that much sense from an environmental standpoint. It’s a pipe dream.” Susie Cagle, *US Gas Utility Funds ‘Front’ Consumer Group to Fight Natural Gas Bans*, Guardian (July 26, 2019), <https://www.theguardian.com/us-news/2019/jul/26/us-natural-gas-ban-socialgas-berkeley>.

environmental justice and societal costs is premature and leads to arbitrary results. Additionally, the proposed targets do not consider the full potential of avoidance as opposed to methane conversion to biogas as a means of reducing methane emissions. Finally, and more specifically to the issue of factory farm gas, we appreciate that the staff's proposed short-term target does not prioritize biomethane from dairy and hog factory farms, but we question why and under what circumstances factory farm gas would be included in a medium-term target that otherwise seems specifically targeted to addressing the needed methane reductions at landfills. Setting a procurement target of 75.5 MMBtu annually by 2030 based on needed reductions in one place, but then allowing that target to be met using biomethane derived from other sectors, does not make sense. We also do not understand why biogas procured through an LCFS procurement process would be an eligible fuel source to meet a procurement target in this context,<sup>39</sup> and what implications the three year sunset of the LCFS pilot program referenced in the Staff Proposal has on the inclusion of dairy biogas in this proposed biomethane target.<sup>40</sup> As discussed throughout these comments, and as supported by the comments and evidence provided here and in prior comments to the Commission, factory farm gas should be excluded from satisfying or contributing to any procurement targets established through this proceeding.

### **C. The Staff Proposal's 10 Additional Recommendations**

#### *1. Interim permissible amount of carbon monoxide in biomethane of 0.03 percent*

Commenters take no position on this recommendation at this time. Commenters look forward to reviewing the comments from other parties and addressing this question as necessary in further comments.

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<sup>39</sup> Staff Proposal, at 48 (“excluding dairy biomethane unless it is procured for LCFS core procurement”).

<sup>40</sup> *Id.* at 16-17.

2. *Prohibiting gas IOUs from procuring biomethane from any facility that does not limit hydrogen sulfide before the gas enters a gathering line*

Commenters agree.

3. *Requiring each IOU to submit a Biomethane Procurement Plan as a Tier 3 Advice Letter*

Commenters disagree with this recommendation because it is premature to consider development of a procurement plan prior to a determination as to cost effectiveness and the social and environmental justice implications of a procurement target in the first place.

Furthermore, no plan should be approved through the summary proceeding of an Advice Letter, even a Tier 3 AL. To the extent that a procurement plan is appropriate at all, such plans should be subject not only to Commission approval, but also to review by the public in public proceedings that will develop an evidentiary record.

4. *Requiring procurement contracts to contain contingency provision to account for increased tipping fees*

Commenters support this recommendation but believe that such a contract term should be required for *any* source of biomethane when the producer receives a tipping fee for accepting a waste stream. As written, the recommendation only applies to landfill operators and wastewater treatment facilities. Which waste streams are considered economically valuable and which ones are considered an economic liability and therefore command a tipping fee can evolve over time, and any procurement contract should reflect this potential change in circumstances. This should include producers who do not receive tipping fees at the time of contract execution, but begin receiving tipping fees, or equivalent compensation, at any point during the life of the contract.

5. *Prohibiting gas IOUs from procuring biomethane from any producer that does not commit to exclusively use low carbon fuel vehicles as part of expanded operations*

Commenters support the intent of this recommendation to mitigate air emissions, but believe that it does not go far enough. First of all, all vehicles at producer facilities should be

zero carbon, not low carbon. More fundamentally, producers must not be permitted to maintain or expand operations in ways that increase particulate or other pollutant emissions.

Additionally, expanded operations as factory farms entails many pollution challenges beyond those associated with vehicle use. Larger herds means more manure and wastewater to manage and ultimately land apply. Expanded operations means more energy consumption, either from the grid or from on-site generation. These increased threats to local environments and communities should also be avoided by excluding factory farm biomethane from any procurement targets.

6. *Prioritize biomethane procurement from producers that agree not to increase on-site generation of electricity using their own biogas beyond current levels*

Commenters support this recommendation, especially for facilities located in non-attainment areas under the Clean Air Act.

7. *Prioritize biomethane procurement from producers that use CCS*

Commenters take issue with this recommendation because CCS continues to remain elusive despite decades of government funding and industry promises of functionality.<sup>41</sup> To approve expansion of harmful agricultural practices and continued reliance upon GHG emitting fuel sources premised upon a non-solution to the climate crisis is a deceptive path that does not lead to sincere climate action. Commenters object to the reliance upon CCS promises for justifying expanded biomethane procurement. Further, Commenters object to reliance on any technology, including CCS, that facilitates continued and increased local pollution.

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<sup>41</sup> See Tom Baxter, *It's Time to Accept Carbon Capture Has Failed - Here's What We Should Do Instead*, Conversation (Aug. 23, 2017), <https://theconversation.com/its-time-to-accept-carbon-capture-has-failed-heres-what-we-should-do-instead-82929>.

8. *Requiring Core Transport Agents to meet or exceed the level of biomethane procured by the gas IOU they are competing with*

Commenters take no position on this recommendation at this time and look forward to reviewing the comments from other parties and addressing this question as necessary in further comments.

9. *Prioritizing biomethane procurement from producers that agree to convert their waste byproduct into soil amendments*

Commenters disagree with this recommendation as applied to factory farm-derived biomethane. The Staff Proposal's rationale, that using digestate "reduce[s] the need for the chemical fertilizers that commonly pollute soil and water" does not apply to factory farm-derived digestate because the incoming waste stream already would have been applied to fields as fertilizer, or often improperly overapplied to cropland as a mechanism of waste disposal. Therefore, in this context, there is no offsetting of chemical fertilizer use, and overapplication of manure to cropland poses no less risk, compared to synthetic fertilizer, in terms of discharge of pollution to surface and groundwater. And as explained elsewhere in these comments, the nutrients and other compounds in digestate have a higher chance of leaching or running off to ground or surface waters compared with undigested manure.

10. *Requiring PG&E and SoCalGas to each submit an application no later than 2022 for one pyrolysis project that can convert forest waste into biomethane.*

Commenters believe this recommendation is premature without an adequate cost-effectiveness analysis, including consideration of societal costs and impacts to ESJ communities, of this technology. As a general matter, Commenters do not support burning forest waste to produce biomethane.

## **D. Important Considerations Not Adequately Addressed by the Staff Proposal**

### *1. The environmental justice analysis in the Staff Proposal is grossly inadequate*

Our fundamental concern is that these polluting industries, in particular factory farms, harm already pollution-burdened communities. There is no sufficient evidence that these technological interventions do anything to significantly mitigate these harms. In fact, there is greater evidence that these technologies incentivize the expansion of these polluting industries, creating even greater harm, especially with respect to dairies.

While acknowledging the environmental justice impacts of methane destruction (“Emitting, burning, and flaring methane all negatively impact local air quality, resulting in negative health impacts such as increased mortality and morbidity, adverse effects on reproductive health, and birth”)<sup>42</sup> the staff proposal fails to explore waste management alternatives that prevent creation of methane in the first place (e.g. food recovery in the organic sector and dry manure management or herd size reductions in the dairy sector). The proposal also notes that “many facilities also produce non-gaseous effluent waste that can contaminate local water sources,”<sup>43</sup> but lacks measures to prevent groundwater pollution from sources. The Proposal alleges that the Commission tries to mitigate environmental justice harms through its ESJ Action Plan, but does not explain how. This reference is insufficient because the ESJ Action Plan, although it raises important priorities for the Commission to incorporate environmental justice into its process and outcomes, does not provide specific mandates to protect ESJ communities from harm.

Despite claiming to “emphasize” environmental justice, the Staff Proposal provides a mere 4 pages with only a cursory acknowledgment of the impact of factory farms on people’s

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<sup>42</sup> Staff Proposal, at 21.

<sup>43</sup> *Id.* at 22.



health and well being. The proposal briefly acknowledges the overwhelming evidence of the harm dairies cause. Yet immediately following this acknowledgement, the proposal asserts, without citation, that these facilities will create local jobs. Even if this is true now, and to the extent it continues to be true as dairies increasingly automate and consolidate, it begs the question, jobs for who? Jobs for the residents of these impacted communities? Jobs that pay a living wage? On this the proposal is silent.

As discussed above, large scale dairies and anaerobic dairy digesters significantly harm neighboring communities, which are disproportionately low income communities of color. These harms include water pollution and air pollution. Anaerobic digesters rely on manufactured, liquefied manure, which often leads to nitrate contamination in groundwater. These same digesters combust methane and create NO<sub>x</sub>. NO<sub>x</sub> is key to ozone formation in the warm months and similarly catalytic in the formation of PM 2.5 in the cooler months. Reducing NO<sub>x</sub> emissions in the San Joaquin Valley is key to the Valley reaching compliance with the federal clean air standards and protecting the health of the region. Additionally, studies find that manure exiting a digester emits as much as 81% more ammonia than raw manure. Increased ammonia together with increases in NO<sub>x</sub> creates an even more intensive ammonium nitrate PM 2.5 impact.<sup>44</sup> Anaerobic digesters worsen local air quality in conflict with the language of AB32 which, in summary, says that efforts to reduce GHG emissions should not compromise or conflict with efforts to reduce air pollution. Anaerobic digesters undermine the state's efforts to make truly clean, zero emissions electricity available to the public.

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<sup>44</sup> See comments on Tier 2 Pathway Application No. BOO59, submitted to the California Air Resources Board on June 25, 2020, [https://www.arb.ca.gov/lists/com-attach/845-tier2lcfspathways-ws-VTZROFI+AD5XNAVr.pdf?\\_ga=2.96477663.1702498510.1625074064-19555073.1620672240](https://www.arb.ca.gov/lists/com-attach/845-tier2lcfspathways-ws-VTZROFI+AD5XNAVr.pdf?_ga=2.96477663.1702498510.1625074064-19555073.1620672240).

Industrial scale dairies have a significant impact on the quality of life for residents of nearby communities. In particular, LCJA consistently hears from residents in these communities that often the flies are so dense and odors so strong that they cannot leave their homes in the evenings.

These harms are created by industrial dairies as they exist now. As discussed above, subsidies to support the development of factory farm biomethane infrastructure has and is incentivizing the expansion of these already massive operations. The expansion of these dairies, and the clustering of dairies around biomethane infrastructure, will only increase the concentrated impact on pollution-burdened ESJ communities.

Next, the staff proposal asserts that reduced GHG emissions should count as an environmental justice benefit since certain communities face greater harm and ongoing risk from climate change impacted weather. First, as raised elsewhere in these comments, there are foundational flaws in the methodology used to assert that factory farm gas production results in net reductions of GHG emissions. Second, it is the obligation of every sector in California's economy to reduce GHG emissions. It is grotesque to force communities located near dairies, communities who face a disproportionate impact from climate change, to sacrifice their well being to meet the state's GHG emission reduction goals and then tell those communities that it is for their own good.

Then, after acknowledging the concerns raised by environmental justice advocates, the proposal dismisses these concerns by citing a 2005 study funded by the Western United Dairymen (now Western United Dairies), an organization whose mission is to "work to promote sound legislative and administrative politics and programs for the profitability of the industry and the welfare of the consumers."<sup>45</sup> Toward that end, this report, nearly without citation, claims

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<sup>45</sup> See Western United Dairies - About <https://westernuniteddairies.com/about/>.

that it can improve air and water quality and lessen the overall environmental impact of dairies. This study bases this claim on “initial tests” and “anecdotal reports.”<sup>46</sup> Communities located near dairies are not well served by reliance on an unsupported proposition in a sixteen-year-old industry study in a proceeding that may impact their health and well being.

The Commission must do better to fulfill its obligation and commitment to center environmental justice. The analysis in the Staff Proposal lacks real consideration of the impact of these large dairies and the incentive to expand in response to the creation of a market for biomethane. It does not incorporate the perspectives or voices of impacted people. Simply put, this fails to meet the commission’s burden to uplift and protect environmental justice communities.<sup>47</sup>

2. *The Commission must ensure adequate public participation in Phase 4 of the proceeding by hosting accessible workshops at appropriate stages*

As part of the Commission’s ESJ Action Plan Goals, the Commission commits to ensure there is sufficient outreach to and public participation from ESJ community residents as part of the Commission’s decision-making process.<sup>48</sup> Outreach and public participation are essential to ensure that those who will be most impacted by the Commission’s decision will have a meaningful opportunity to understand those impacts and raise their concerns. Public engagement also benefits the Commission, ensuring that staff and commissioners have as much information as possible throughout the decision-making process.

Commenters are concerned that previous workshops have only included parties who support the development and deployment of biomethane. It is important that all perspectives

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<sup>46</sup> Ken Kirsch et al, Biomethane from Dairy Waste: A Sourcebook for the Production and Use of Renewable Natural Gas in California, at 38 (2005), [http://www.suscon.org/pdfs/news/biomethane\\_report/Full\\_Report.pdf](http://www.suscon.org/pdfs/news/biomethane_report/Full_Report.pdf).

<sup>47</sup> See ESJ Action Plans Goals #2 (Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health) and #5 (Enhance outreach and public participation opportunities for ESJ communities to meaningfully participate in the CPUC's decision-making process and benefit from CPUC programs).

<sup>48</sup> *Id.*

have an opportunity to raise concerns in these forums. It is especially important for the Commission to reach out to residents in ESJ communities, especially those located near facilities that operate or contemplate the use of anaerobic digesters. The Commission must provide adequate outreach and an accessible forum for comments from these communities.

#### **IV. Conclusion**

For the foregoing reasons, the Commenters urge the Commission to entirely exclude factory farm biomethane from any procurement targets, develop a cost-effectiveness methodology in consultation with the public and impacted communities that incorporates a full life cycle analysis, and ensure that ESJ community residents have a meaningful opportunity to engage in this proceeding and any subsequent decision-making.

Dated: June 30, 2021

Respectfully submitted,



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